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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/718,320	11/19/2003	Chunyuan Chao	M-15208 US	1058

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EXAMINER	
DEO, DUY VU NGUYEN	

ART UNIT	PAPER NUMBER
1765	

DATE MAILED: 08/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Advisory Action Before the Filing of an Appeal Brief	**Application No.** 10/718,320	**Applicant(s)** CHAO ET AL.	
	Examiner Duy-Vu N. Deo	**Art Unit** 1765	

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 14 August 2006 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:
   a) ☒ The period for reply expires 3 months from the mailing date of the final rejection.
   b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

   Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

AMENDMENTS

3. ☒ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because
   (a) ☒ They raise new issues that would require further consideration and/or search (see NOTE below);
   (b) ☐ They raise the issue of new matter (see NOTE below);
   (c) ☒ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
   (d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

   NOTE: *See Continuation Sheet*. (See 37 CFR 1.116 and 41.33(a)).
4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).
5. ☐ Applicant's reply has overcome the following rejection(s): _____.
6. ☒ Newly proposed or amended claim(s) *4-10* would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
7. ☒ For purposes of appeal, the proposed amendment(s): a) ☒ will not be entered, or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.
   The status of the claim(s) is (or will be) as follows:
   Claim(s) allowed: _____.
   Claim(s) objected to: *4-10*.
   Claim(s) rejected: *1-3,11-26 and 34-37*.
   Claim(s) withdrawn from consideration: _____.

AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing a good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because: See Continuation Sheet.
12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08 or PTO-1449) Paper No(s). _____
13. ☐ Other: _____.

Duy-Vu N Deo
Primary Examiner
Art Unit: 1765

Continuation of 3. NOTE: the limitations in claim 23 would require further consideration.

Continuation of 11. does NOT place the application in condition for allowance because: 1. In response to applicant's arguments, the recitation of forming vias through an interlayer dielectric region of a monolithically integrated device or a contact forming method (claim 34) has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See In re Hirao, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and Kropa v. Robie, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

Referring to applicant's argument that Tsai '418 teaching of the aperture size to "as narrow as about 0.3 microns" would guide artisans away from considering such a technique for smaller dimensions is found unpersuasive because that is just teaching a way of forming the vias not teaching away from considering forming a smaller dimensions.

Referring to applicant's argument to claim 3, Tsai might be silent about the CF4 constitutes a source of etch inhibitor which selectively adheres to organic surfaces. However, since the etchant used includes fluorocarbon species, which is similar to that of the claimed invention, it would also provide source of etch inhibitor which selectively adheres to organic surfaces.

Referring to applicant's argument about claims 13-16, Tsai describes etching the nitride layer to form a plurality of third openings form the second openings (col. 8, line 18-30).

Referring to applicant's argument that Hui describes that ARC has reflective properties is noticed by the examiner. However, any organic or inorganic "ARC layer" would still reflect light in a lesser degree since they're obviously seen on the substrate. Therefore, an organic "ARC" layer still have a reflective property. Therefore, at the time of the invention, using any of these ARC materials would be obvious and with an anticipated of an expected result of reducing the light reflect from the substrate.

Referring to applicant's argument that Tsai '418 doesn't teaching the step of filling the contact holes with an electrical conductor or Chien doesn't provide tapered ARC, in response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See In re Keller, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); In re Merck & Co., 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Referring to claim 26, during the fabrication of the semiconductor device, the pattern is used to make thousands of contact holes. It is not known that a pattern can provide an exact plug spacings or spacings between corresponding conductive lines dues to the limitation and the error during the process. Therefore, the methods of Hui or Tsai would provide different plug spacings and/or spacings between conductive lines.

Applicant's argument about Chien and Tsai is acknowledged. However, there is no rejection over the combination of Tsai and Chien.

Referring to applicant's about the combination of Hui and Chien, applicant has not traversed the reason for combining, which is to etch the silicon dioxide with a high selectivity to the under or lower layer such a s silicon nitride layer..